



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER OF PATENTS AND TRADEMARKS
Washington, D.C. 20231
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/811,389	03/20/2001	Kozo Mano	0052/042001	8768

22893 7590 04/23/2003

SMITH PATENT OFFICE
1901 PENNSYLVANIA AVENUE N W
SUITE 200
WASHINGTON, DC 20006

EXAMINER

PHAM, HAI CHI

ART UNIT	PAPER NUMBER
----------	--------------

2861

DATE MAILED: 04/23/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/811,389

Applicant(s)

KOZO MANO

Examiner

Hai C Pham

Art Unit

2861

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on RCE & Amendment (02/06/03).
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-25 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-25 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION

Continued Prosecution Application

1. The request filed on 02/06/03 for a Continued Examination Application (RCE) under 37 CFR 1.114 based on parent Application No. 09/811,389 is acceptable and a RCE has been established. An action on the RCE follows.

Claim Objections

2. The following claims are objected to because of the following informalities:

Claim 5:

- Line 2, "the adjuster" should read --each of the adjusters-- since there are now three separated adjusters being claimed.

Claim 6:

- Line 3, "the adjuster" should read --each of the adjusters--.

Claim 7:

- Line 2, "the adjuster" should read --each of the adjusters--.

Claim 9:

- Line 3, "the adjuster" should read --each of the adjusters--.

Claim 15:

- Line 2, "the adjuster" should read --each of the adjusters--.

Claim 16:

- Line 3, "the adjuster" should read --each of the adjusters--.

Claim 17:

- Line 2, "the adjuster" should read --each of the adjusters--.

Claim 19:

- Line 3, "the adjuster" should read --each of the adjusters--.

Appropriate correction is required.

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 1-3, 7-13, 17-22, 25 are rejected under 35 U.S.C. 103(a) as being unpatentable over Matsuyama (U.S. 6,292,279 B1) in view of Takahashi et al. (U.S. 5,883,385).

Matsuyama discloses an optical recording device comprising three laser light sources emitting red, green and blue light beams, respectively, an optical path adjusting system including a position sensor (35) and a corresponding adjuster (mirrors 4, 5, 6) for adjusting an optical path of each of the red, green, blue laser beams.

Although, Matsuyama discloses the position sensor being carefully disposed at a plane optically conjugates with the focal point (10) of the three laser beams, Matsuyama however fails to teach the position sensor being disposed at a plane optically

conjugates with the plane corresponding to the photographic paper. Matsuyama also does not disclose the optical scanning system.

Regardless, Takahashi et al. discloses a multi-beam scanning apparatus including a respective optical path adjusting device (galvanomirrors 3a, 3b) for adjusting the optical path of each of the laser beams (La, Lb) based on the detection of the laser beams by the position sensor (13), which can be disposed in various emplacement within the apparatus but remained optically conjugated with the surface of the photosensitive drum, the apparatus also including a polygon mirror for scanning the laser beams on the surface of the photosensitive drum.

It would have been obvious at the time the invention was made to a person having ordinary skill in the art to modify the device of Matsuyama with the aforementioned teaching of Takahashi et al. for the purpose of sensing the position of the laser beams as they scanned the surface of the photographic paper.

Matsuyama further teaches a beam splitter, a total reflection mirror used as the optical path adjuster, the mirror being rotated around an axis by an actuator (36X, 36Y), a processor (not shown) for calculating a quantity of displacement between the positions of the laser beams on the position of the sensor and for controlling the actuator based on the calculated quantity of the displacement (col. 5, line 66 to col. 6, line 48) (Fig. 1b), and all the laser beams being adjusted to overlap at a certain point (10)..

5. Claims 4, 14, 23-24 are rejected under 35 U.S.C. 103(a) as being unpatentable over Matsuyama in view of Takahashi et al., as applied to claims 1 and 11 above, and further in view of Uemura et al. (U.S. 5,436,645).

Regardless, Uemura et al. discloses an inspection and adjustment method for a laser scanning optical system, which includes a display monitor for observing the detected laser light beam by a position sensor unit.

It would have been obvious at the time the invention was made to a person having ordinary skill in the art to modify the device of Matsuyama, as modified by Takahashi et al., with the aforementioned teaching of Uemura et al. for the purpose of constantly monitoring the position of the detected light beam.

6. Claims 5-6, and 15-16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Matsuyama in view of Takahashi et al., as applied to claims 1 and 11 above, and further in view of Winsor (U.S. 5,379,059).

Matsuyama in view of Takahashi et al. discloses all the basic limitations of the claimed invention except for the mirror being manually rotatable around an axis.

Winsor discloses an adjustment mechanism used in a laser printer, which includes laser beam sources for emitting red, green and blue laser beams, corresponding optical path adjusting mirrors (14, 30, 42) for adjusting the optical of the respective laser beams, the azimuth and the elevation angle of each of the mirrors being independently and manually adjusted (via screws) for correcting the final position of each of the laser beams (Figs. 2-6).

Art Unit: 2861

It would have been obvious at the time the invention was made to a person having ordinary skill in the art to incorporate the optical path adjusting system as taught by Winsor in the modified device of Matsuyama for the purpose of providing fine adjustment of the mirrors.

Response to Arguments

7. Applicant's arguments with respect to claims 1-25 have been considered but are moot in view of the new grounds of rejection presented in this Office action.

Additional Prior Art

8. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Hidaka (U.S. 4,949,100) discloses an apparatus for forming composite laser beam, including optical path adjusting device for each of the primary color laser sources.

Contact Information

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Hai C Pham whose telephone number is (703) 308-1281. The examiner can normally be reached on T-F (8:30-5:30).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Benjamin R. Fuller can be reached on (703) 308-0079. The fax phone numbers for the organization where this application or proceeding is assigned are (703)

Application/Control Number: 09/811,389

Page 7

Art Unit: 2861

308-7722, (703) 308-7724, (703) 308-7382, (703) 305-3431, (703) 305-3432 for regular communications and for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0956.



HAI PHAM
PRIMARY EXAMINER
April 19, 2003